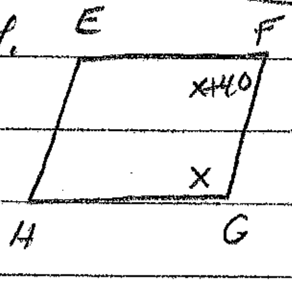
Ch 8 p564 1-12, 14-18 ; p555 18-24

1. $x + 422 = 540$
$\boxed{x = 118}$

2. $5x + 925 = 1080$
$5x = 155$
$\boxed{x = 31}$

3. $x + 289 = 360$
$\boxed{x = 71}$

4.


$2x + 40 = 180$ Cons Int ∠s Supp
$x = 70$

5. No need both sets of opp ∠s $m\angle G = m\angle E = 70°$

6. Yes diagonals bisect $m\angle F = m\angle H = 110°$

7. No could be trapezoid

8. rhombus + square are equilateral

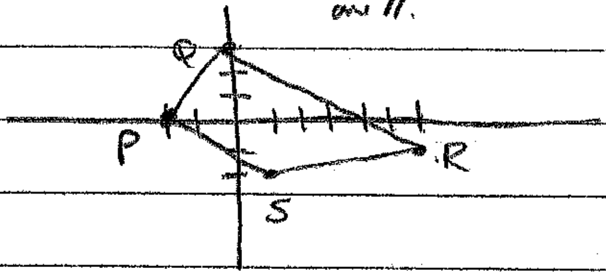
9. Rectangle + square have Rt ∠s

10. rectangle, square have ≅ diagonals

11. parallelogram, rectangle, rhombus, square opp sides are //.

[So do Isos trapezoids but not in list]

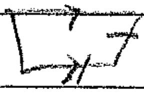
12. $P(-2,0)$ $R(6,-1)$
$Q(0,3)$ $S(1,-2)$



$\overline{PS}$ $m = -\frac{2}{3}$
//
$\overline{QR}$ $m = \frac{4}{-6} = -\frac{2}{3}$

$\overline{PQ}$ $m = \frac{3}{2}$
not //
$\overline{SR}$ $m = \frac{-1}{-5} = \frac{1}{5}$

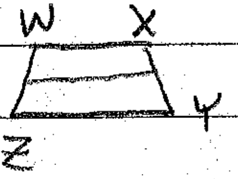
PQRS is a trapezoid b/c one set of // side

14. Trapezoid one pair of opp side //


15. Quadrilateral ⊥ diagonals one pair opp sides ≅ (not kite) Not ▱

16. Kite $\triangle s \cong$ (SAS)

17. 1.25cm

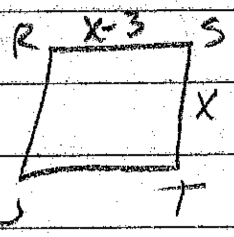


$2.75 = \frac{1}{2}(x+4.25)$

$1.25 = x$

18. 12cm = ST

9 cm = SR



$2(x) + 2(x-3) = 42$

$x = 12$

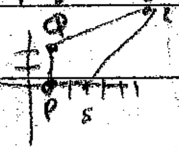
p555

18. No Kites also have ⊥ diagonal

19. No Not //

20. No don't know if diagonals ⊥

21. P(1,0) Q(1,2) R(6,5) S(3,0)



$\overline{PQ}$ $m = \frac{2-0}{1-1} = \text{undef}$ ⟩ not //

$\overline{RS}$ $m = \frac{5-0}{6-3} = \frac{5}{3}$

$\overline{QR}$ $m = \frac{5-2}{6-1} = \frac{3}{5}$ ⟩ not //

$\overline{PS}$ $m = \frac{0-0}{3-1} = \frac{0}{2} = 0$

Not ▱, Not trap b/c no // sides

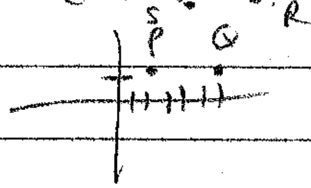
Check Kite

$PQ = \sqrt{2^2+0^2} = 2$ $PS = \sqrt{0^2+2^2} = 2$

$RS = \sqrt{5^2+3^2} = \sqrt{34}$ $\sqrt{3^2+5^2} = \sqrt{34}$

Kite 2 sets of cons. sides ≅

22. P(2,1) Q(6,1) R(5,8) S(3,8)



$\overline{PQ}$ $m = \frac{1-1}{6-2} = \frac{0}{4} = 0$

$\overline{RS}$ $m = \frac{8-8}{5-3} = \frac{0}{2} = 0$ ∥

$\overline{SP}$ $m = \frac{8-1}{3-2} = \frac{7}{1} = 7$

$\overline{QR}$ $m = \frac{8-1}{5-6} = \frac{7}{-1} = -7$ not ∥

Not ▱, Trapezoid → 1 set ∥ lines

Check if isos $SP = \sqrt{7^2+1^2} = \sqrt{50}$

$QR = \sqrt{7^2+(-1)^2} = \sqrt{50}$ ≅ legs

Isoscela trapezoid

23. P(2,7) Q(6,9) R(9,3) S(5,1)

$\overline{PQ}$ $m = \frac{2}{4} = \frac{1}{2}$ ∥ $\overline{SP}$ $m = \frac{7-1}{2-5} = \frac{6}{-3} = -2$ ∥

$\overline{RS}$ $m = \frac{2}{4} = \frac{1}{2}$ $\overline{QR}$ $m = \frac{6}{-3} = -2$

Parallelogram Rectangle

2 sets ∥ sides $\overline{PQ} \perp \overline{SP}$ opp reciprocals

$PQ = \sqrt{2^2+4^2} = \sqrt{20}$

$SP = \sqrt{6^2+(-3)^2} = \sqrt{45}$ Not square

24. P(1,7) Q(5,8) R(6,2) S(2,1)

$\overline{PQ}$ $m = \frac{1}{4}$ ∥ $\overline{SP}$ $m = \frac{6}{-1} = -6$ ∥

$\overline{RS}$ $m = \frac{1}{4}$ $\overline{QR}$ $m = \frac{6}{-1} = -6$

Parallelogram (def ▱) Not Rect $\not\perp$

$PQ = \sqrt{17}$; $SP = \sqrt{37}$

Not Rhombus